UNITED STATES PATENT AND TRADEMARK OFFICE

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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/583,671	LOHR ET AL.
	Examiner	Art Unit	
	HABTE MERED	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 April 2008*.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *79-119* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *79-119* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *08 April 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *see attached*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Response to Amendment

1.   The amendment filed on 4/08/2008 has been entered and fully cancelled.

2.   The amendment filed on 4/08/2008 has cancelled all previously pending claims 37-78.

Claims 1-36 were previously cancelled.

3.   New claims 79-119 are currently pending. Claims 79, 100, 114, 116, and 118 are the

base independent claims.

Response to Arguments

4.   Applicant's arguments with respect to all independent claims have been considered but

are moot in view of the new ground(s) of rejection.

5.   Applicant has argued in the Remarks on pages 12 and 13 that the previously used primary

reference, NEC's 3GPP contribution "Per-cell, Per-UE, Per-Mac-d Flow basis Scheduling

Signaling in Enhanced Uplink" (R2-041294) that the Examiner should compare the Applicant's

invention with NEC's contribution on "per-UE" single control loop scheduling approach and not

select the "per MAC-d flow" scheduling approach as it is based on n separate control loops.

Examiner respectfully disagrees. Applicant's argument regarding how many control loops is irrelevant as it is not claimed in either the previous set or current set of claims. Hence NEC's 3GPP contribution still teaches the claimed limitation in question as detailed in the previous action. However, Examiner has now selected Nokia's 3GPP contribution as the primary reference as it also addresses the unclaimed concerns raised by Applicant in the Remarks in regards to the number of control loops. However, Examiner still maintains that NEC's 3-GPP contribution still teaches limitations contained in the independent claims.

Applicant's remarks with current newly added claim 80 on page 16 of the Remarks are confusing. Applicant indicates the previous Office Action is erroneous for pointing out that Mac-d flows are not identical to logical channels. Yet, claim 80 still claims "....the flow is a logical channel...." and the only identified flows in the entire specification are Mac-d flows. Hence, either the claim is erroneous or the statement in the Remarks is incorrect. Examiner assumes the claim is correct and the statement in the Remarks as incorrect as it contradicts the claim as well as the specification.

Applicant also argues on page 16 of the Remarks in the second paragraph with respect to current newly added claim 83 that different scheduling mode has nothing to do with the QoS info comprising a transmission mode. Examiner respectfully disagrees and points Applicant to the newly cited reference which is Lucent's 3-GPP contribution shows that scheduling mode is closely related with the QoS info comprising a transmission mode. Also Cheng et al which is a newly cited reference further strengthens Examiner's position.

Finally, Nokia's 3-GPP contribution used as the primary reference unequivocally teaches in the fourth option of section 2.1 the very essence of what Applicant is claiming in all

independent claims. Hence, this Office Action is made final in view of the Applicant's

amendments to the claims and the newly cited references that adequately address these claims.

6.   The drawings 1-8 were received on 4/08/2008. These drawings are acceptable and

overcome objection made in the last Office Action.

Specification

7.   The disclosure is objected to because of the following informalities: In the published

specification in paragraph 74 references are made to the independent claims and dependent

claims. Such references to these claims need to be removed.

        Appropriate correction is required.

Claim Objections

8.   Claim 83 is objected to because of the following informalities: In line 2 of Claim 3 the

word "oft e flow" is misspelled. Appropriate correction is required.

9.   Claim 84 is objected to because of the following informalities: Claim 84 depends on

cancelled claim 5. For the purpose of examining it is assumed claim 84 depends on claim 79.

Appropriate correction is required.

10.   Claim 87 is objected to because of the following informalities: In the last line of Claim

87 the word "L plink" is misspelled and needs to be replaced with "uplink". Appropriate

correction is required.

11.   Claim 100 is objected to because of the following informalities: In line 7 of Claim 100

the word "motile" is misspelled and needs to be replaced with "mobile". Appropriate correction

is required.

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

13.   **Claims 79-82, 86, 88-97, 100-103, 106-111 and 118** are rejected under 35 U.S.C. 103(a)

as being unpatentable over Nokia-3GPP ("QoS and Scheduling Principles in HSUPA", 3GPP

TSG-RAN WG2 #43, R2-041519, Nokia, August, 2004) in view of Kekki (US Pub. No.

2005/0073953 A1) and Schultz (WIPO WO 01/63855 A1).

Regarding **Claim 79**, Nokia-3GPP discloses a method for scheduling transmissions of a

plurality of mobile terminals **(i.e. UE)** in a mobile communication system **(See Section 2.1 deals**

with scheduling UEs by the base station, Node B), wherein each mobile terminal transmits

data of at least one flow **(i.e. Mac-d flow)** being mapped on a dedicated uplink channel **(i.e. E-**

DCH as indicated in paragraph 2 of Section 2.1) to a base station **(Node B)**, the method

comprising:

receiving a scheduling request **(i.e. uplink grant request as shown in paragraph 1 of**

Section 2.1) from at least one of the mobile terminals **(i.e. UEs)** at the base station **(i.e. Node B)**,

wherein the scheduling request comprises an identifier identifying one of the plurality of flows

(i.e. section 2.1 fourth option paragraph 1 grant request per priority queue associated with

a specific flow like Applicant's Figure 10 and in paragraph 2 use of service priority id is

disclosed), and

scheduling by the base station **(i.e. Node B does scheduling in section 2.1 option 4)** the

transmissions of the mobile terminals based on the identifier **(i.e. service priority indicator of**

section 2.1 option 4) and the QoS information related to the flow identified by the identifier

(Nokia-3GPP discloses Node B knows the relative priority of each queue where priority by

itself is a form of QoS and Node B takes into account the QoS info when making scheduling

decisions as discussed in detail in Section 2.1 option 4).

Nokia-3GPP fails to expressly disclose receiving at the base station from a radio network

controller Quality of Service information. Nokia-3GPP does teach the base station (i.e. Node B)

knowing the QoS of each flow in terms of its priority (See Section 2.1 option 4).

However, the above mentioned claimed limitations are well known in the art as

evidenced by Kekki'953. In particular, Kekki'953 discloses receiving at the base station (i.e.

Node B) from a radio network controller (i.e. RNC) Quality of Service information **(See in**

Kekki'953 paragraphs 40, 49 and 54 disclosing the RNC setting QoS parameters and

sending it to the base station).

In view of the above, having the method of Nokia-3GPP and then given the well

established teaching of Kekki'953, it would have been obvious to one having ordinary skill in the

art at the time of the invention was made to modify the method of Nokia-3GPP as taught by

Kekki'953, since Kekki'953 clearly states in paragraph 50 that the modification results in a

cheaper and simpler implementation of a base station.

Nokia-3GPP fails to expressly disclose a base station with knowledge of (QoS)

information of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a

mobile terminal. Nokia-3GPP discloses a Node B with knowledge of service priority of a

plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal

(See Section 2.1 option 4 for details).

Schultz'855 discloses a base station **(See Figure 2, Node B)** with knowledge of (QoS)

information of a plurality of flows **(i.e. each RAB in Figure 7 has a unique QoS known at**

setup by Node-B as illustrated on page 28, Lines 19-22) to be multiplexed **(i.e. the flows on**

the transport channels are muxed at the UE) onto a single dedicated uplink channel **(i.e.**

physical channel DCH of Figure 7) by a mobile terminal **(UE) (See also pages 6 and 7**

discussion with regards to Figure 2 and pages 27-29 for discussion with regards to Figure

7).

In view of the above, having the method of Nokia-3GPP and then given the well

established teaching of Schultz'855, it would have been obvious to one having ordinary skill in

the art at the time of the invention was made to modify the method of Nokia-3GPP as taught by

Schultz'855, since Schultz'855 clearly states on page 3, Lines 19-22 that the modification results

in ability to handle specified guaranteed bandwidth and QoS requirements when multiplexing

more than one incoming data flow onto a single output channel.

Regarding **claim 80**, Nokia-3GPP discloses a method, wherein the flow is a logical

channel mapped on the dedicated uplink channel and the identifier identifies the logical channel.

(In Section 2.1 option 4, line 1 it is disclosed the Mac-d flows have priority queues for

different priorities in Mac-e like Applicant's Figure 5 and the service priority indicator

identifies a specific queue and are logical channels just like the Mac-d flows).

Regarding **claim 81**, Nokia-3GPP discloses a method, wherein the flow has a priority. **(See Section 2.1 option 4 each mac-d flow has a priority derived from its corresponding logical prioritized queue)**.

Regarding **claim 82** Nokia-3GPP discloses a method wherein the flow is multiplexed on a MAC-d flow. **(See section 2.1 option 4)**

Regarding **claim 86**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 disclose a method, wherein the scheduling request received by the base station is transmitted via Medium Access Control (MAC) control signaling **(See Schultz'855 Figure 2 where the Mac-d has a dedicated control channel and the schedule request is transmitted from the UE to Node B using similar mechanism shown in Figure 3)**.

Regarding **claim 88**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 disclose a method, wherein the QoS information is received from a network element **(Kekki'953 shows the RNC setting QoS parameters for the base station in paragraph 54)** terminating the radio resource control signaling of at least one of the mobile terminals **(Schultz'855 shows in Figures 2 shows the RNC terminating the UE control message and Schultz'855 in Figure 3 shows the control message is an RRC signaling)**.

Regarding **claim 89**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 disclose a method, wherein the QoS information is included in a configuration message **(Schultz'855 on page 7, Lines 15-22 that the QoS is assigned when the RABs are configured by the RNC and necessitate use of configuration message as further suggested in Kekki'953 paragraph 48)**.

Regarding **claim 90**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855

disclose a method wherein the QoS information is received by the base station from the network

element **(Kekki'953 shows the RNC setting QoS parameters for the base station in**

paragraph 54), terminating the radio resource control signaling in a radio link setup message or

a radio link reconfiguration message **(Schultz'855 on page 7, Lines 15-22 and last paragraph**

of page 27 that the QoS is assigned when the RABs are configured and reconfigured by the

RNC and necessitate use of configuration and reconfiguration message as further suggested

in Kekki'953 paragraph 48).

Regarding **claim 91**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855

disclose a method, wherein the QoS information is received from a serving radio network

controller **(Kekki'953 shows the serving RNC setting QoS parameters for the base station in**

paragraph 54 and also see Schultz'855 Figure 2).

Regarding **claim 92,** the combination of Nokia-3GPP, Kekki'953, and Schultz'855

disclose a method, wherein the flow is associated to at least one radio bearer between the mobile

terminal and the network element terminating the radio resource control signaling and the

method further comprises mapping QoS information of a radio

bearer to the QoS information of the flow. **(Schultz'855 on page 28 in the last paragraph**

teaches mapping of radio bearer's QoS to the QoS flows as further shown in Figure 7).

Regarding **claim 93**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855

disclose a method, wherein the mapping of the QoS information comprises taking into account

uplink delays on the interface between the base station and the network element terminating the

radio resource control signaling **(Kekki'953 in paragraph 49 teaches taking into**

consideration such delays as a QoS parameter).

Regarding **claim 94**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855

disclose a method, wherein the flow is a MAC-d flow or a priority queue of the mobile terminal

(Nokia-3GPP teaches in section 2.1 option 4 that the flow can be a priority queue or a Mac-

d flow).

Regarding **claim 95**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855

disclose a method, wherein the scheduling request comprises an identifier identifying the highest

priority flow **(Nokia-3GPP shows the scheduling request highest priority flow in Section 2.1**

option 4).

Regarding **claim 96**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855

disclose a method, wherein the highest priority flow has the highest QoS demands. **(Nokia-**

3GPP in Section 2.1 in the second option shows higher priority translates to higher QoS

demands)

Regarding **claim 97**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855

disclose a method, wherein the QoS information comprises at least one of a transfer delay, a

guaranteed bit rate, a traffic handling priority, a service type identification, a traffic class and a

reordering release timer of the reordering buffer in the Medium Access Control (MAC) entity.

(Nokia-3GPP teaches service type identification in section 2.1 option 4 and Kekki'953

teaches traffic class of Diffserv as suggested in paragraph 11)

Regarding **claim 100**, Nokia-3GPP discloses a base station **(i.e. Node B in Section 2 and**

2.1) for scheduling a plurality of transmissions of a plurality of

mobile terminals in a mobile communication system, wherein each mobile terminal transmits

data of at least one flow being mapped on a dedicated uplink channel **(i.e. E-DCH as indicated**

in paragraph 2 of Section 2.1 and options 3 and 4 teach more than mac-d flows being

mapped to the uplink channel) to a base station **(i.e. Node B)**, the base station comprising:

a communication section **(i.e. every base station has a communication section)** adapted

and for receiving a scheduling request **(i.e. Uplink grant request)** from at least one of the

mobile terminals **(i.e. uplink grant request as shown in paragraph 1 of Section 2.1 is received**

from UEs by Node B), wherein the scheduling request comprises an identifier **(i.e. service**

priority id) identifying one of the plurality of flows **(i.e. section 2.1 fourth option paragraph 1**

grant request per priority queue associated with a specific flow like Applicant's Figure 10

and in paragraph 2 use of service priority id is disclosed), and

a scheduling section adapted to schedule the transmissions of the mobile terminals **(i.e.**

Node B does scheduling in section 2.1 option 4) based on the identifier **(i.e. service priority**

indicator of section 2.1 option 4) and the QoS information related to the flow identified by the

identifier **(Nokia-3GPP discloses Node B knows the relative priority of each queue where**

priority by itself is a form of QoS and Node B takes into account the QoS info when making

scheduling decisions as discussed in detail in Section 2.1 option 4).

Nokia-3GPP fails to expressly disclose receiving at the base station from a radio network

controller Quality of Service information. Nokia-3GPP does teach the base station (i.e. Node B)

knowing the QoS of each flow in terms of its priority (See Section 2.1 option 4).

However, the above mentioned claimed limitations are well known in the art as

evidenced by Kekki'953. In particular, Kekki'953 discloses receiving at the base station (i.e.

Node B) from a radio network controller (i.e. RNC) Quality of Service information **(See in Kekki'953 paragraphs 40, 49 and 54 disclosing the RNC setting QoS parameters and sending it to the base station)**.

In view of the above, having the base station of Nokia-3GPP and then given the well established teaching of Kekki'953, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the base station of Nokia-3GPP as taught by Kekki'953, since Kekki'953 clearly states in paragraph 50 that the modification results in a cheaper and simpler implementation of a base station.

Nokia-3GPP fails to expressly disclose a base station with knowledge of (QoS) information of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal. Nokia-3GPP discloses a Node B with knowledge of service priority of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal (See Section 2.1 option 4 for details).

Schultz'855 discloses a base station **(See Figure 2, Node B)** with knowledge of (QoS) information of a plurality of flows **(i.e. each RAB in Figure 7 has a unique QoS known at setup by Node-B as illustrated on page 28, Lines 19-22)** to be multiplexed **(i.e. the flows on the transport channels are muxed at the UE)** onto a single dedicated uplink channel **(i.e. physical channel DCH of Figure 7)** by a mobile terminal **(UE) (See also pages 6 and 7 discussion with regards to Figure 2 and pages 27-29 for discussion with regards to Figure 7)**.

In view of the above, having the base station of Nokia-3GPP and then given the well established teaching f Schultz'855, it would have been obvious to one having ordinary skill in the

art at the time of the invention was made to modify the base station of Nokia-3GPP as taught by Schultz'855, since Schultz'855 clearly states on page 3, Lines 19-22 that the modification results in ability to handle specified guaranteed bandwidth and QoS requirements when multiplexing more than one incoming data flow onto a single output channel.

Regarding **claim 101**, it is noted that the limitations of claim 101 corresponds to that of claim 80 as discussed above, please see the Examiner's comments with respect to claim 80 as set forth in the rejection above.

Regarding **claim 102**, it is noted that the limitations of claim 102 corresponds to that of claim 81 as discussed above, please see the Examiner's comments with respect to claim 81 as set forth in the rejection above.

Regarding **claim 103**, it is noted that the limitations of claim 103 corresponds to that of claim 82 as discussed above, please see the Examiner's comments with respect to claim 82 as set forth in the rejection above.

Regarding **claim 106**, it is noted that the limitations of claim106 corresponds to that of claim 88 as discussed above, please see the Examiner's comments with respect to claim 88 as set forth in the rejection above.

Regarding **claim 107**, it is noted that the limitations of claim107 corresponds to that of claim 89 as discussed above, please see the Examiner's comments with respect to claim 89 as set forth in the rejection above.

Regarding **claim 108**, it is noted that the limitations of claim108 corresponds to that of claim 91 as discussed above, please see the Examiner's comments with respect to claim 91 as set forth in the rejection above.

Regarding **claim 109**, it is noted that the limitations of claim109 corresponds to that of

claim 95 as discussed above, please see the Examiner's comments with respect to claim 95 as set

forth in the rejection above.

Regarding **claim 110**, it is noted that the limitations of claim110 corresponds to that of

claim 96 as discussed above, please see the Examiner's comments with respect to claim 96 as set

forth in the rejection above.

Regarding **claim 111**, it is noted that the limitations of claim111 corresponds to that of

claim 97 as discussed above, please see the Examiner's comments with respect to claim 97 as set

forth in the rejection above.

Regarding **Claim 118**, Nokia-3GPP discloses a computer readable storage medium for

storing instructions that when executed by a processor of a base station **(i.e. Node B of Section**

2.1) in a mobile communication system cause the base

station to schedule transmissions by a plurality of mobile terminals (i.e. UE of Section 2.1),

wherein each mobile terminal transmits data of at least one flow mapped on a dedicated uplink

channel **(i.e. E-DCH as indicated in paragraph 2 of Section 2.1)**, by:

receiving a scheduling request **(i.e. uplink grant request as shown in paragraph 1 of**

Section 2.1) from at least one of the mobile terminals **(i.e. UEs)** at the base station **(i.e. Node B)**,

wherein the scheduling request comprises an identifier identifying one of the plurality of flows

(i.e. section 2.1 fourth option paragraph 1 grant request per priority queue associated with

a specific flow like Applicant's Figure 10 and in paragraph 2 use of service priority id is

disclosed), and

scheduling by the base station **(i.e. Node B does scheduling in section 2.1 option 4)** the

transmissions of the mobile terminals based on the identifier **(i.e. service priority indicator of**

section 2.1 option 4) and the QoS information related to the flow identified by the identifier

(Nokia-3GPP discloses Node B knows the relative priority of each queue where priority by

itself is a form of QoS and Node B takes into account the QoS info when making scheduling

decisions as discussed in detail in Section 2.1 option 4).

Nokia-3GPP fails to expressly disclose receiving at the base station from a radio network

controller Quality of Service information. Nokia-3GPP does teach the base station (i.e. Node B)

knowing the QoS of each flow in terms of its priority (See Section 2.1 option 4).

However, the above mentioned claimed limitations are well known in the art as

evidenced by Kekki'953. In particular, Kekki'953 discloses receiving at the base station (i.e.

Node B) from a radio network controller (i.e. RNC) Quality of Service information **(See in**

Kekki'953 paragraphs 40, 49 and 54 disclosing the RNC setting QoS parameters and

sending it to the base station).

In view of the above, having the medium of Nokia-3GPP and then given the well

established teaching of Kekki'953, it would have been obvious to one having ordinary skill in the

art at the time of the invention was made to modify the medium of Nokia-3GPP as taught by

Kekki'953, since Kekki'953 clearly states in paragraph 50 that the modification results in a

cheaper and simpler implementation of a base station.

Nokia-3GPP fails to expressly disclose a base station with knowledge of (QoS)

information of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a

mobile terminal. Nokia-3GPP discloses a Node B with knowledge of service priority of a

plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal (See Section 2.1 option 4 for details).

Schultz'855 discloses a base station **(See Figure 2, Node B)** with knowledge of (QoS) information of a plurality of flows **(i.e. each RAB in Figure 7 has a unique QoS known at setup by Node-B as illustrated on page 28, Lines 19-22)** to be multiplexed **(i.e. the flows on the transport channels are muxed at the UE)** onto a single dedicated uplink channel **(i.e. physical channel DCH of Figure 7)** by a mobile terminal **(UE) (See also pages 6 and 7 discussion with regards to Figure 2 and pages 27-29 for discussion with regards to Figure 7)**.

In view of the above, having the medium of Nokia-3GPP and then given the well established teaching of Schultz'855, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the medium of Nokia-3GPP as taught by Schultz'855, since Schultz'855 clearly states on page 3, Lines 19-22 that the modification results in ability to handle specified guaranteed bandwidth and QoS requirements when multiplexing more than one incoming data flow onto a single output channel.

14.   **Claims 83-84, 99 and 113** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nokia-3GPP in view of Kekki'953 and Schultz'855 as applied to claim 79 above, and further in view of Lucent-3GPP ("Scheduled and Autonomous Mode Operation for the Enhanced Uplink", 2003, 3GPP TSG RAN WG1#31 R1-03-0284).

Regarding **claim 83**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 fail to disclose a method wherein the QoS information comprises a transmission mode associated with the data flow.

Lucent-3GPP discloses a method wherein the QoS information comprises a transmission mode associated with the data flow. (In section 2 and 4 it is shown transmission mode has to do with a choice of scheduling and if Node B controlled scheduling then the QoS info is buffer status, power margin and channel quality).

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 and then given the well established teaching of Lucent-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 as taught by Lucent-3GPP, since Lucent-3GPP clearly states in Section 3 that the modification results in ability to have co-existence of scheduled and autonomous transmission by a user equipment.

Regarding **claim 84**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 fail to disclose a method, wherein the transmission mode indicates whether data of the flow is transmitted applying an additional gain factor.

Lucent-3GPP discloses a method, wherein the transmission mode indicates whether data of the flow is transmitted applying an additional gain factor. **(Lucent-3GPP teaches a transmission mode where the flow is transmitted applying an additional gain factor in bullet item 4 of page 5)**

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 and then given the well established teaching of Lucent-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and

Schultz'855 as taught by Lucent-3GPP, since Lucent-3GPP clearly states in Section 3 that the

modification results in ability to have co-existence of scheduled and autonomous transmission by

a user equipment and ability to do H-ARQ with greater flexibility as stated in bullet item 3 of

page 5 in Lucent-3GPP's disclosure.

Regarding **claim 99**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 fail to

disclose a method wherein further comprising considering a predetermined gain factor to be

additionally applied to the transmission when scheduling the mobile terminal from which the

scheduling request has been received at the base station.

Lucent-3GPP discloses a method, wherein further comprising considering a

predetermined gain factor to be additionally applied to the transmission when scheduling the

mobile terminal from which the scheduling request has been received at the base station

(Lucent-3GPP teaches a transmission mode where the flow is transmitted applying an

additional gain factor in bullet item 4 of page 5 and it is predetermined to meet the need of

already known uplink transport channel power requirement).

In view of the above, having the method based on the combination of Nokia-3GPP,

Kekki'953, and Schultz'855 and then given the well established teaching of Lucent-3GPP, it

would have been obvious to one having ordinary skill in the art at the time of the invention was

made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and

Schultz'855 as taught by Lucent-3GPP, since Lucent-3GPP clearly states in Section 3 that the

modification results in ability to have co-existence of scheduled and autonomous transmission by

a user equipment and ability to do H-ARQ with greater flexibility as stated in bullet item 3 of

page 5 in Lucent-3GPP's disclosure.

Regarding **claim 113**, it is noted that the limitations of claim113 corresponds to that of claim 99 as discussed above, please see the Examiner's comments with respect to claim 99 as set forth in the rejection above.

15.   **Claims 85, 87, 104 and 105** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nokia-3GPP in view of Kekki'953 and Schultz'855 as applied to claim 79 above, and further in view of Fujitsu-3GPP ("Signaling framework for enhanced uplink scheduling", August 2004, 3GPP TSG RAN1 and RAN2 meetings).

Regarding **claim 85**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 fail to disclose a method, wherein the scheduling request further comprises information on buffer occupancy at the mobile terminal and on a transmission power at the mobile terminal.

Fujitsu-3GPP discloses a method, wherein the scheduling request further comprises information on buffer occupancy at the mobile terminal and on a transmission power at the mobile terminal. **(Fujitsu-3GPP shows Scheduling Information (SI) request with buffer occupancy and transmit power from the UE to Node-B as shown in Figure 1 and item 1 under Uplink Signaling on page 2).**

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 and then given the well established teaching of Fujitsu-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 as taught by LFujitsu-3GPP, since Fujitsu-3GPP clearly states in Section 1 that the modification results in a flexible signaling framework.

Regarding **claim 87**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 fail to disclose a method, further comprising transmitting a scheduling assignment from the base station to at least one of the mobile terminals from which a scheduling request has been received at the base station, wherein the scheduling assignment indicates a uplink resource allocated to the mobile terminal on the dedicated uplink channel.

Fujitsu-3GPP discloses a method, further comprising transmitting a scheduling assignment **(i.e. SAs in Figure 1)** from the base station **(i.e. Node B)** to at least one of the mobile terminals **(UE of Figure 1)** from which a scheduling request has been received at the base station, wherein the scheduling assignment indicates a uplink resource allocated **(rate, power, time, bandwidth)** to the mobile terminal on the dedicated uplink channel **(See items 1 and 2 on page 3 regarding downlink Schedule Assignment)**.

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 and then given the well established teaching of Fujitsu-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 as taught by Fujitsu-3GPP, since Fujitsu-3GPP clearly states in Section 1 that the modification results in a flexible signaling framework.

Regarding **claim 104**, it is noted that the limitations of claim 104 corresponds to that of claim 85 as discussed above, please see the Examiner's comments with respect to claim 85 as set forth in the rejection above.

Regarding **claim 105**, it is noted that the limitations of claim105 corresponds to that of claim 87 as discussed above, please see the Examiner's comments with respect to claim 87 as set forth in the rejection above.

16.   **Claims 98 and 112** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nokia-3GPP in view of Kekki'953 and Schultz'855 as applied to claim 79 above, and further in view of Cheng et al (US Pub. No 2004/0228313 A1).

Regarding **claim 98**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 disclose a method using a scheduling request. **(See Section 2.1 option 4)**

The combination of Nokia-3GPP, Kekki'953, and Schultz'855 fail to disclose a service type indicator indicating a transmission of data of the flow carrying a delay-critical service on the dedicated uplink channel.

Cheng'313 discloses a service type indicator indicating a transmission of data of the flow carrying a delay-critical service on the dedicated uplink channel **(Cheng''313 in paragraph 28 and Figure 2 indicates a service type indicator indicating a transmission of data of the flow carrying a delay-critical service such as video conference on the uplink)**.

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 and then given the well established teaching of Cheng'313, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 as taught by Cheng'313, since Cheng'313 clearly states in paragraphs 11 and 12 that the modification results in a flexible signaling framework to map data for uplink transmission.

Regarding **claim 112**, it is noted that the limitations of claim112 corresponds to that of

claim 98 as discussed above, please see the Examiner's comments with respect to claim 98 as set

forth in the rejection above.

17.   **Claims 114-116, 117, and 119** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Nokia-3GPP in view of Cheng'313.

Regarding **claim 114**, Nokia-3GPP discloses a method for transmitting data in a mobile

communication system **(See Section 2.1)**, the method comprising:

transmitting from a mobile terminal **(i.e. UE)** to a base station **(i.e. Node B)** a scheduling

request, wherein the scheduling request comprises a flow identifier **(i.e. Service Priority**

indicator)

identifying one of a plurality of flows **(i.e. Mac-d flows)** to be multiplexed onto a single

dedicated uplink channel **(i.e. E-DCH)**, and

wherein the flow identifier identifies Quality of Service (QoS) information related to the

identified flow **(i.e. Node B based on the id maps it a QoS associated with the flow and**

priority is QoS and Node B has knowledge of relative priority of each flow – see section 2.1

option 4 for details).

Nokia-3GPP fails to expressly disclose receiving at the mobile terminal from the base

station a scheduling assignment considering the QoS information related to the identified flow,

multiplexing data of the plurality of flows to the dedicated uplink channel, and transmitting data

according to the scheduling assignment. Nokia-3GPP discloses Mac-D flow multiplexing and the

Node B making scheduling decision based on QoS information related to the identified flow in

Section 2.1 option 4.

Cheng'313 discloses receiving at the mobile terminal from the base station a scheduling

assignment **(downlink schedule notify in paragraph 49)** considering the QoS information

related to the identified flow **(see paragraphs 12, 28 and 49 Cheng'313 the UE receiving**

signal from Node B containing transmission parameter for scheduling based on QoS info),

multiplexing data of the plurality of flows to the dedicated uplink channel **(See paragraph 29)**,

and receiving at the mobile terminal from the base station a scheduling assignment **(See**

paragraph 28) considering the QoS information related to the identified flow, multiplexing data

of the plurality of flows **(i.e. Mac-d flows of Figure 4)** to the dedicated uplink channel **(Figure 4**

– EU-DCH), and transmitting data according to the scheduling assignment **(In Figure 4 the mac**

entity of the UE is shown performing transmitting data according to the scheduling

assignment).

In view of the above, having the method of Nokia-3GPP and then given the well

established teaching of Cheng'313, it would have been obvious to one having ordinary skill in

the art at the time of the invention was made to modify the method of Nokia-3GPP as taught by

Cheng'313, since Cheng'313 clearly states in paragraphs 11 and 12 that the modification results

in a flexible signaling framework to map data for uplink transmission.

Regarding **claim 115**, the combination of Nokia-3GPP and Cheng'313 disclose a method,

further comprising receiving QoS information from a network element **(i.e. Node B or base**

station as indicated in paragraphs 27 and 28) terminating the radio resource control signaling

(RRC signaling used as indicated in paragraph 53) of the mobile terminal at the mobile

terminal **(The Node B sends schedule assignments with QoS parameters and Node B**

terminates the mobiles RRC signaling emanating from MAC-EU 340 of Figure 3 as

discussed in paragraph 27, 28 and 53.)

Regarding **claim 116**, Nokia-3GPP discloses a mobile terminal **(i.e. UE of section 2.1**

option 4) for transmitting data in a mobile communication system, the mobile terminal

comprising:

a transmitting section operable to transmit to a base station a scheduling request **(i.e.**

uplink grant request of Section 2.1),

wherein the scheduling request comprises a flow identifier **(i.e. service priority**

indicator) identifying one of a plurality of flows (i.e. Mac-d flows) to be multiplexed onto a

single dedicated uplink channel **(i.e. E-DCH is used for uplink communication and Mac-d**

flows are multiplexed), and

wherein the flow identifier identifies Quality of Service (QoS) information related to the

identified flow **(i.e. Node B based on the id maps it a QoS associated with the flow and**

priority is QoS and Node B has knowledge of relative priority of each flow – see section 2.1

option 4 for details).

Nokia-3GPP fails to expressly disclose a receiving section operable to receive from the

base station a scheduling assignment considering the QoS information related to the identified

flow, and a multiplexer operable to multiplex data of the plurality of flows to the dedicated

uplink channel, wherein the transmitting section is further operable to transmit data according to

the scheduling assignment. Nokia-3GPP discloses Mac-D flow multiplexing and the Node B

making scheduling decision based on QoS information related to the identified flow in Section

2.1 option 4.

Cheng'313 discloses a receiving section operable to receive from the base station a

scheduling assignment **(i.e. downlink schedule notify in paragraph 49)** considering the QoS

information related to the identified flow **(see paragraphs 12, 28 and 49 Cheng'313 the UE**

receiving signal from Node B containing transmission parameter for scheduling based on

QoS info), and

a multiplexer **(i.e. Figure 3. element 320 – mac-d)** operable to multiplex data of the

plurality of flows to the dedicated uplink channel **(i.e. DCH of Figure 3 or EUDCh of Figure**

4), wherein the transmitting section is further operable to transmit data according to the

scheduling assignment **(i.e. according to schedule mode of Figure 4. In Paragraphs 39-41**

Cheng'313 shows how the MAC-D multiplexed the Mac-d flows and in paragraph 29

discusses the scheduling assignment).

In view of the above, having the mobile terminal of Nokia-3GPp and then given the well

established teaching of Cheng'313, it would have been obvious to one having ordinary skill in

the art at the time of the invention was made to modify the mobile terminal of Nokia-3GPP as

taught by Cheng'313, since Cheng'313 clearly states in paragraphs 11 and 12 that the

modification results in a flexible signaling framework to map data for uplink transmission.

Regarding **claim 117**, it is noted that the limitations of claim117 corresponds to that of

claim 115 as discussed above, please see the Examiner's comments with respect to claim 115 as

set forth in the rejection above.

Regarding **claim 119**, Nokia-3GPP discloses a computer readable storage medium for

storing instructions that when executed by a processor cause a mobile terminal to transmit data in

a mobile communication comprising system **(See Section 2.1)**, by:

transmitting from the mobile terminal **(i.e. UE)** to a base station **(i.e. Node B)** a

scheduling request, wherein the scheduling request comprises a flow identifier **(i.e. Service**

Priority indicator)

identifying one of a plurality of flows **(i.e. Mac-d flows)** to be multiplexed onto a single

dedicated uplink channel **(i.e. E-DCH)**, and

wherein the flow identifier identifies Quality of Service (QoS) information related to the

identified flow **(i.e. Node B based on the id maps it a QoS associated with the flow and**

priority is QoS and Node B has knowledge of relative priority of each flow – see section 2.1

option 4 for details).

Nokia-3GPP fails to expressly disclose receiving at the mobile terminal from the base

station a scheduling assignment considering the QoS information related to the identified flow,

multiplexing data of the plurality of flows to the dedicated uplink channel, and transmitting data

according to the scheduling assignment. Nokia-3GPP discloses Mac-D flow multiplexing and the

Node B making scheduling decision based on QoS information related to the identified flow in

Section 2.1 option 4.

Cheng'313 discloses receiving at the mobile terminal from the base station a scheduling

assignment **(downlink schedule notify in paragraph 49)** considering the QoS information

related to the identified flow **(see paragraphs 12, 28 and 49 Cheng'313 the UE receiving**

signal from Node B containing transmission parameter for scheduling based on QoS info),

multiplexing data of the plurality of flows to the dedicated uplink channel **(See paragraph 29)**,

and receiving at the mobile terminal from the base station a scheduling assignment **(See**

paragraph 28) considering the QoS information related to the identified flow, multiplexing data

of the plurality of flows **(i.e. Mac-d flows of Figure 4)** to the dedicated uplink channel **(Figure 4**

– EU-DCH), and transmitting data according to the scheduling assignment **(In Figure 4 the mac**

entity of the UE is shown performing transmitting data according to the scheduling

assignment).

In view of the above, having the medium of Nokia-3GPp and then given the well

established teaching of Cheng'313, it would have been obvious to one having ordinary skill in

the art at the time of the invention was made to modify the medium of Nokia-3GPP as taught by

Cheng'313, since Cheng'313 clearly states in paragraphs 11 and 12 that the modification results

in a flexible signaling framework to map data for uplink transmission.

Conclusion

18.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HABTE MERED whose telephone number is (571)272-6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on 571 272 7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/   /Habte Mered/
Supervisory Patent Examiner, Art Unit 2616   Examiner, Art Unit 2616
                                                                      8-10-08